UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,306	09/30/2003	Jon M. Speigle	SLA1194	8172

52894 7590 04/23/2007	EXAMINER	
KRIEGER INTELLECTUAL PROPERTY, INC.	GE, YUZHEN	
P.O. BOX 1073		
CAMAS, WA 98607	ART UNIT	PAPER NUMBER
	2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/676,306	SPEIGLE ET AL.
	Examiner	Art Unit	
	Yuzhen Ge	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-29* is/are pending in the application.
    4a) Of the above claim(s) *4-6,10,12 and 25-27* is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-3,7-9,11,13-17, 20-24,28 and 29* is/are rejected.
7) ☒ Claim(s) *18 and 19* is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *30 September 2003* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *2/2/2004*.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Examiner's Remark

Applicant's response to election/restriction requirement, filed on March 20 2007, has

been received and entered into the file. According to the response, Species I (claims 1-3, 7-9, 11,

13-24, 28 and 29) is elected without traverse and therefore claims 4-6, 10, 12, and 25-27 are

withdrawn from examination.

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created doctrine
grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or
improper timewise extension of the "right to exclude" granted by a patent and to prevent possible
harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection
is appropriate where the conflicting claims are not identical, but at least one examined
application claim is not patentably distinct from the reference claim(s) because the examined
application claim is either anticipated by, or would have been obvious over, the reference
claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re
Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225
USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re
Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may
be used to overcome an actual or provisional rejection based on a nonstatutory double patenting
ground provided the conflicting application or patent either is shown to be commonly owned
with this application, or claims an invention made as a result of activities undertaken within the
scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal
disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR
3.73(b).

2.   Claims 1 and 28-29 are rejected on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over claim 1 of U.S. Patent No. 7,064,769. Although the

conflicting claims are not identical, they are not patentably distinct from each other because

- Claims 1 and 1 of the patent recite common subject matter; So are the following

   claims and their corresponding claims of the patent listed in an order pair

   notation: (28, 10), (29, 9).

- Whereby claim 1, which recites the open ended transitional phrase "comprising", does not preclude the additional elements recited by claim 1 of the patent, and

- Whereby the elements of claims 1 and 28-29 are fully anticipated by patent claims 1 and 9-10, and anticipation is "the ultimate or epitome of obviousness" (*In re Kalm*, 154 USPQ 10 (CCPA 1967), also *In re Dailey*, 178 USPQ 293 (CCPA 1973) and *In re Pearson*, 181 USPQ 641 (CCPA 1974)).

Claim Rejections - 35 USC § 101

Claim 29 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 29 defines a set of executable instructions embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). That is, the scope of the presently claimed a set of executable instructions can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

3.   Currently in TC 2600, it is required explicitly to include "computer-readable medium", "encoded" (or "storing", "embodied with a", "encoded with a", "having a stored", "having an encoded"), and "computer program" in the claim language to make it explicitly a statutory subject matter.

Claim Rejections - 35 USC § 102

4.   Claims 1-3, 7-8, 11, 13-17, 20-22, 24, 28 and 29 are rejected under 35 U.S.C. 102(e) as

being anticipated by Kim et al (US Patent 6,594,384).

Regarding claim 1, Kim et al teach a method for color correction of a digital image, the method

comprising:

determining digital image color correction parameters for a digital image (Figs. 1-5,

abstract, especially Fig. 4, color correction parameters are calculated for a set of pixels, col. 2,

line 49-col. 3, line 5);

determining image exception characteristics (Fig. 4, col. 5, lines 7-66); and,

applying the correction parameters to the digital image in response to the image

exception characteristics (col. 1, lines 32-39, abstract, Figs. 4 and 5, col. 3, lines 25-48, col. 4,

lines 8-21, col. 13, line 48-col. 14, line 50).

Regarding claim 2, Kim et al teach a method as described in claim 1 wherein determining image

exception characteristics comprises determining an image self-luminous region (abstract, Figs.

4 and 5, col. 3, lines 25-48, col. 4, lines 8-21, col. 5, lines 7-66, col. 13, line 48-col. 14, line 50).

Regarding claim 3, Kim et al teach a method as described in claim 1 wherein determining image

exception characteristics comprises determining a color distribution property (Abstract, col. 6,

lines 53-59, col. 7, lines 7-14, col. 7, lines 40-51, col. 8, lines 6-11, col. 8, lines 29-36).

Regarding claim 7, Kim et al teach a method as described in claim 1 wherein determining image exception characteristics comprises determining the identity of at least one illuminant (Figs. 1-4, detecting illuminant chromaticity is determining the identity of the illuminant, Tables 1-4).

Regarding claim 8, Kim et al teach a method as described in claim 1 wherein applying the correction parameters to the digital image in response to the image exception characteristics comprises varying the attenuation of a correction (Figs. 1-5, abstract, Figs. 4 and 5, col. 3, lines 25-48, col. 4, lines 8-21, col. 13, line 48-col. 14, line 50, color correction is performed in response to the self-luminous region).

Regarding claim 11, Kim et al teach a method as described in claim 1 wherein applying the correction parameters to the digital image in response to the image exception characteristics comprises differential application of a correction (col. 3, lines 24-48, col. 4, lines 8-21, lines 23-30, col. 13, line 57-col. 14, line 31, the color correction is differential because it is based on the target reference color values and the illumination color temperature).

Regarding claim 13, Kim et al teach a method as described in claim 1 wherein applying the correction parameters to the digital image in response to the image exception characteristics comprises spatially varying a correction (Figs. 1, and 4-5, the self-luminous region is excluded which is equivalent to spatially vary a correction).

Regarding claim 14, Kim et al teach a method as described in claim 1 wherein applying the correction parameters to the digital image in response to the image exception characteristics comprises chromaticity variance of a correction (abstract, Figs. 4 and 5, col. 3, lines 25-48, col. 4, lines 8-21, col. 13, line 48-col. 14, line 50).

Regarding claim 15, Kim et al teach a method as described in claim 2 wherein detecting an image self-luminous region comprises determining the luminance of at least one element, determining the chromaticity of a region and determining the spatial position of a region (Figs. 1-4, col. 6, lines 53-59, col. 7, lines 7-14, col. 7, lines 40-51, col. 8, lines 6-11, col. 8, lines 29-36).

Regarding claim 16, Kim et al teach a method as described in claim 2 wherein detecting an image self-luminous region comprises determining the chromaticity of at least one element (Figs. 1-4, col. 6, lines 53-59, col. 7, lines 7-14, col. 7, lines 40-51, col. 8, lines 6-11, col. 8, lines 29-36).

Regarding claim 17, Kim et al teach a method as described in claim 2 wherein detecting an image self-luminous region comprises determining the spatial position of at least one element (Figs. 1-4, col. 6, lines 53-59, col. 7, lines 7-14, col. 7, lines 40-51, col. 8, lines 6-11, col. 8, lines 29-36).

Regarding claim 20, Kim et al teach a method as described in claim 2 wherein detecting a luminous region comprises detection of relatively high pixel luminance values wherein high luminance comprises a luminance value higher than other image elements in a given region (Fig. 2, highlight regions have higher luminance/brightness, col. 9, lines 39-49).

Regarding claim 21, Kim et al teach a method as described in claim 2 wherein detecting a luminous region comprises detection of relatively high pixel luminance values wherein high luminance comprises a luminance value higher than a threshold value (Fig. 2, highlight regions have higher luminance/brightness than a predetermined reference brightness which is regarded as the threshold value, col. 9, lines 39-49).

Regarding claim 22, Kim et al teach the method of claim 2 wherein detecting a self-luminous region comprises detecting the chromaticity of at least one element (abstract, Figs. 1, 4 and 5, col. 3, lines 25-48, col. 3, line 62-col. 4, line 5, col. 4, lines 8-21, col. 5, line 60-col. 6, line 32, col. 13, line 48-col. 14, line 50).

Regarding claim 24, Kim et al teach the method of claim 2 wherein detecting a self-luminous region comprises detecting the position of at least one element relative to image boundaries (Fig. 3, the image boundary is in the chromaticity plane, Figs. 1 and 4-5, also in order to remove the self-luminous region, it is implicit that the position of at least one element relative to image boundaries is detected).

Claims 28 and 29 are the corresponding system and executable instruction claims of claim 1

respectively. Kim et al teach a system and executable instructions (Title, Figs. 4-5, col. 2, lines

55-67, col. 15, lines 45-59, col. 16, lines 8-28). Thus Kim et al teach claims 28-29 as evidently

explained in the above-cited passages.

Claim Rejections - 35 USC § 103

5.   Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al

(US Patent 6,594,384).

Regarding claim 9, Kim et al teach a method as described in claim 1. However they do not

explicitly teach wherein applying the correction parameters to the digital image in response to

the image exception characteristics comprises omitting any correction. However they do teach

calculating correct chromaticity and white balance or color correction (Figs. 1-4, col. 2, line 55-

col. 3, line 5, col. 1, lines 31-39). Because the correction is based on the calculation, depending

on the image and the results of calculation, correction may not be necessary (official notice). It

is desirable to be efficient and adaptive based on the image. Therefore it would have been

obvious to one of ordinary skill in the art, at the time of invention, to omit any correction when

applying the correction parameter to the digital image.

Regarding claim 23, Kim et al teach the method of claim 2. However they do not explicitly

teach wherein detecting a self-luminous region comprises detecting a position of at least one

element relative to the top image boundary. They do teach detecting a position of at least one

element relative to the top image boundary in the chromaticity plane (Fig. 3, the image boundary is in the chromaticity plane. They also teach removing self-luminous region (Figs. 1 and 4-5) and therefore the position of at least one element relative to a reference location of the image is found. Because the top image boundaries can be used as a reference of locations in an image and because self-luminous regions are normally in the top area of an image and because a location relative to the top image boundary can be found once the position of the element relative to other reference is found (office notice), therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to use the top image boundary as the reference to positions so that representation of a position of the element can be more efficient.

Allowable Subject Matter

6.   Claims 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter. The prior art fails to teach the listed claims each of which specifically comprises the following listed feature(s) in combination with other limitations in the respective claims:

Claim 18

-- wherein said applying the correction parameters comprises varying the attenuation of a correction in response to pixel position wherein the attenuation is changed linearly as the pixel position changes from a non-self-luminous region to a self-luminous region.

Claim 19

-- wherein said applying the correction parameters comprises varying the attenuation of a correction in response to pixel position wherein the attenuation is changed non-linearly as the pixel position changes from a non-self-luminous region to a self-luminous region

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuzhen Ge whose telephone number is 571-272 7636. The examiner can normally be reached on 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yuzhen Ge
Examiner
Art Unit 2624

WENPENG CHEN
PRIMARY EXAMINER